

RESOURCE NOTES

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Development and Assessment of Tools That Managers Could use to Monitor Wild Horse Populations

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The tenth in a series of 13, Session 3

Background

Management will be more effective with modern, defensible, rapid, easy to use techniques for the counting, demographic analysis, and removal analysis of wild horse populations. The Midcontinent Ecological Science Center is committed to assisting in development of such tools for managers. We have reviewed a selection of techniques which could be developed and applied to important information needs relative to wild horses. Several of these techniques have been used in the Pryor Mountain and Book Cliffs wild horse herds by the Bureau of Land Management and the

Midcontinent Ecological Science Center, US Geological Survey.

Discussion

Attempts were made at complete identification and enumeration of both herds through two different techniques. First, a unique marking system was developed, based on visual markings, that is computer compatible. This system is rapid, inexpensive, easy to use and requires only a PC computer and a data entry program such as QPRO, EXCEL, ACCESS, or DBASE. It is probably useful only for herds with excellent access and easy to observe animals. Second, a computerized photo-ID system (WHIMS) is being developed for greater accuracy in identification of animals. It is also only practical for use in herds of <200 animals, that are accessible and easy to photograph. The WHIMS system would be very useful for contraceptive application where individual recognition is critical.

Conclusion

Many populations do not meet the criteria for a complete census of the animals, and an aerial technique is required. The technique

should meet the criteria of defensible, tested, and accurate, yet be relatively easy to use and not require extensive capture or handling of animals. Four likely candidates are: (1) mark-resight using some individually recognizable animals (this proved to be biased in the Pryor Mountains), (2) mark resight of entire herd based on photos, recognition during a pre-survey prior to the survey (this was used in one herd and shows promise), (3) the Idaho sightability model - tested and used extensively on elk in many areas of the western US, and (4) population reconstruction models. Several population models are also available that could easily be applied to wild horse herds, including several that are based on marked animals in the herd (White, G. C. 1996) or in herds with no marked animals (Wild Horse Population Model-University of Nevada, POPII).

Source

White, G. C. 1996. NORE-MARK: population estimation from mark-resighting surveys. Wildlife Society Bulletin. 24:50-52.

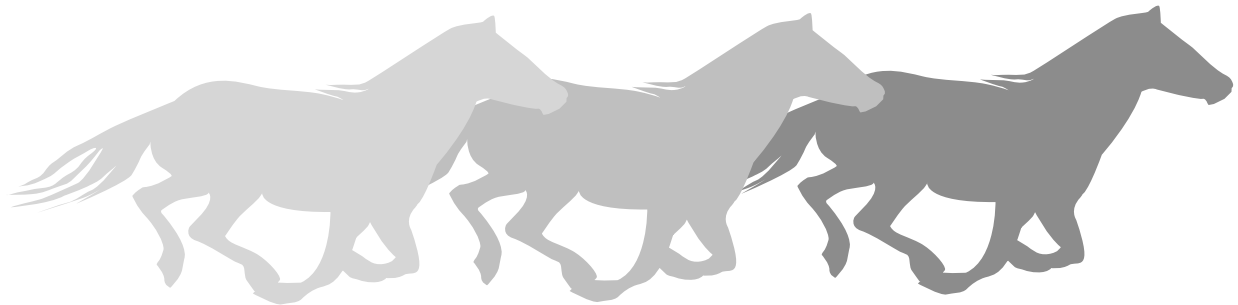
WILD HORSE AND
BURRO PROGRAM



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